

ABSTRACT

The present invention is a novel method for reducing tensile zones in the surface of a part comprising the steps of selecting a region of the part to be treated and programming a control unit of a burnishing apparatus to perform a burnishing operation, the burnishing operation being performed such that the density of burnishing and the magnitude of compression are varied to reduce the high tensile stress along the boundaries of the selected region. In a preferred embodiment of the invention the burnishing operation induces a deep layer of compression within the surface having associated cold working of less than about 5.0 percent.

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